

SEQUENCE LISTING

<110> Sim, Gek-Kee
Yang, Shumin
Sellins, Karen S.

<120> NOVEL FORMS OF T CELL COSTIMULATORY PROTEINS, NUCLEIC
ACID MOLECULES, AND USES THEREOF

<130> IM-1-C1-PCT

<140> not yet assigned

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<150> 60/078,765

<151> 1998-03-19

<150> 09/062,597

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		50					55				60				

Leu	Tyr	Glu	Leu	Tyr	Arg	Gly	Lys	Glu	Asn	Pro	Gln	Asn	Val	His	Arg
65					70					75				80	

Lys	Tyr	Lys	Gly	Arg	Thr	Ser	Phe	Asp	Lys	Asp	Asn	Trp	Thr	Leu	Arg
				85						90				95	

Leu	His	Asn	Ile	Gln	Ile	Lys	Asp	Lys	Gly	Leu	Tyr	Gln	Cys	Phe	Val
			100						105				110		

His His Lys Gly Pro Lys Gly Leu Val Pro Met His Gln Met Asn Ser
 115 120 125
 Asp Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile Met Val Thr
 130 135 140
 Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys Ser Ser
 145 150 155 160
 Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Leu Val Lys Thr
 165 170 175
 Glu Asn Ser Ser Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn
 180 185 190
 Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Ser Phe Ser Val
 195 200 205
 Pro Glu Ala Ser Asn Val Ser Ile Phe Cys Val Leu Gln Leu Glu Ser
 210 215 220
 Met Lys Leu Pro Ser Leu Pro Tyr Asn Ile Asp Ala His Thr Lys Pro
 225 230 235 240
 Thr Pro Asp Gly Asp His Ile Leu Trp Ile Ala Ala Leu Leu Val Met
 245 250 255
 Leu Val Ile Leu Cys Gly Met Val Phe Phe Leu Thr Leu Arg Lys Arg
 260 265 270
 Lys Lys Lys Gln Pro Gly Pro Ser His Glu Cys Glu Thr Asn Lys Val
 275 280 285
 Glu Arg Lys Glu Ser Glu Gln Thr Lys Glu Arg Val Arg Tyr His Glu
 290 295 300
 Thr Glu Arg Ser Asp Glu Ala Gln Cys Val Asn Ile Ser Lys Thr Ala
 305 310 315 320
 Ser Gly Asp Asn Ser Thr Thr Gln Phe
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<210> 8

<211> 1897

<212> DNA

<213> Canis familiaris

<400> 8

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 ctgctcattg ttgtcagcac accaagccac cattttcgtc ctgaccctca cagaggagca 360
 agagctcttc agcagtgggt agaattttct cagggcatag taattacatt attatagtag 420
 acatctcttt atgtctcaaa atattaaagc aacactataa agccataaca tacaaaaactc 480
 ccaccagac tgcagaggta gtcacaaata tacaagatgg aatgaggcac tatcttagaa 540
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<210> 9

<211> 987

<212> DNA

<213> Canis familiaris

<400> 9

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cattttacaa attctcaaaa cataagcctg gatgagttgg tagtgttttg gcaggaccag 180
gataagctgg ttctgtacga gctatacaga ggcaaagaga accctcaaaa tgttcatcgc 240
aagtataagg gccgcacaag ctttgacaaa gacaattgga cctgagact ccataatatt 300
cagatcaagg acaagggctt gtatcaatgt ttcgttcac ataaagggcc caaaggactc 360
gttcccatgc accagatgaa ttctgaccta tcagtgttg ctaacttcag tcaacctgaa 420
ataatggtaa cttctaatag aacagaaaa tctggcatca taaatttgac ctgctcatcc 480
atacaagggt acccagaacc caaggagatg tatttttttg taaaaaccga gaattcaagt 540
actaagtatg atactgtcat gaagaaatct caaaataatg tcacagaact ctacaacgtt 600
tctatcagct tgtccttctc agtccttgaa gcaagcaatg tgagcatctt ctgtgtcctg 660
caacttgagt caatgaagct tccctcccta ccttataata tagatgcaca tacgaaaccc 720

acccctgatg gagaccacat cctctggatt gcggctctgc ttgtaatgtt ggtcattttg 780
 tgtgggatgg tgttctttct aacactaagg aaaaggaaga agaagcagcc tggcccctct 840
 catgaatgtg aaaccaacaa agtggagaga aaagaaagtg agcagaccaa ggaaagagta 900
 cggtagcatg aaacggaaag atctgatgaa gccagtggtg ttaacatttc gaagacagct 960
 tcaggcgaca acagtactac acagttt 987

<210> 10

<211> 987

<212> DNA

<213> *Canis familiaris*

<400> 10

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 ctccactttg ttggtttcac attcatgaga ggggccaggc tgcttcttct tcttttctct 180
 tagtgtaga aagaacacca tccacacaa atgaccaac attacaagca gagccgcaat 240
 ccagaggatg tggctctccat caggggtggg ttctgtatgt gcacttatat tataaggtag 300
 ggagggaagc ttcattgact caagttgcag gacacagaag atgtcacat tgcttgcttc 360
 agggactgag aaggacaagc tgatagaaac gttgtagagt tctgtgacat tattttgaga 420
 tttcttcatt acagtatcat acttagtact tgaattctcg gtttttacca aaaaatacat 480
 ctcttgggt tctgggtaac ctgtatgga tgagcaggtc aaatttatga tgccagaatt 540
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 gtcagaattc atctggtgca tgggaacgag tcctttgggc cttttatgat gaacgaaaca 660
 ttgatacaag cccttgcct tgatctgaat attatggagt ctgagggtcc aattgtcttt 720
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987

<210> 11

<211> 1024

<212> DNA

<213> Canis familiaris

<220>

<221> CDS

<222> (79)..(783)

<400> 11

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tcagcagcag cagaagcc atg gat tac aca gcg aag tgg aga aca cca cca 111

Met Asp Tyr Thr Ala Lys Trp Arg Thr Pro Pro

1

5

10

ctc aaa cac cca tat ctc aag gtc tct cag ctc ttg gtg cta gct agt 159

Leu Lys His Pro Tyr Leu Lys Val Ser Gln Leu Leu Val Leu Ala Ser

15

20

25

ctc ttt tac ttc tgt tca ggc atc atc cag gtg aac aag aca gtg aaa 207

Leu Phe Tyr Phe Cys Ser Gly Ile Ile Gln Val Asn Lys Thr Val Lys

30

35

40

gaa gta gca gta ctg tcc tgt gat tac aac att tcc act aca gaa ctg 255

Glu Val Ala Val Leu Ser Cys Asp Tyr Asn Ile Ser Thr Thr Glu Leu

45

50

55

atg aaa gtt cga atc tat tgg caa aag gat gat gaa gtg gtg ctg gct 303

Met Lys Val Arg Ile Tyr Trp Gln Lys Asp Asp Glu Val Val Leu Ala

60

65

70

75

gtc aca tct gga caa acg aaa gtg tgg tcc aag tat gag aat cgc acc 351

Val Thr Ser Gly Gln Thr Lys Val Trp Ser Lys Tyr Glu Asn Arg Thr

80

85

90

ttt gct gac ttc acc aat aac ctc tcc atc gtg att atg gct ctg cgc 399

Phe Ala Asp Phe Thr Asn Asn Leu Ser Ile Val Ile Met Ala Leu Arg

95

100

105

ctg tca gac aat ggc aaa tac acc tgt atc gtt caa aag act gaa aaa 447

Leu Ser Asp Asn Gly Lys Tyr Thr Cys Ile Val Gln Lys Thr Glu Lys

110

115

120

agg tct tac aaa gtg aaa cac atg act tcg gtg atg tta ttg gtc aga 495
 Arg Ser Tyr Lys Val Lys His Met Thr Ser Val Met Leu Leu Val Arg
 125 130 135

gct gac ttc cct gtc cct agt ata act gac ctt gga aat cca tcc cat 543
 Ala Asp Phe Pro Val Pro Ser Ile Thr Asp Leu Gly Asn Pro Ser His
 140 145 150 155

gac atc aaa agg ata atg tgt tca acc tct gga ggt ttt cca aag cct 591
 Asp Ile Lys Arg Ile Met Cys Ser Thr Ser Gly Gly Phe Pro Lys Pro
 160 165 170

cac ctc tcc tgg tgg gaa aat gaa gaa gaa ttg aat gct gcc aac aca 639
 His Leu Ser Trp Trp Glu Asn Glu Glu Glu Leu Asn Ala Ala Asn Thr
 175 180 185

aca gtt tcc caa gac ccg gac act gag ttg tac act att agt agt gaa 687
 Thr Val Ser Gln Asp Pro Asp Thr Glu Leu Tyr Thr Ile Ser Ser Glu
 190 195 200

ctg gat ttc aat ata aca agc aac cat agc ttt gtg tgt ctt gtc aag 735
 Leu Asp Phe Asn Ile Thr Ser Asn His Ser Phe Val Cys Leu Val Lys
 205 210 215

tat gga gac tta aca gta tca cag atc ttc aac tgg caa aaa tgt aag 783
 Tyr Gly Asp Leu Thr Val Ser Gln Ile Phe Asn Trp Gln Lys Cys Lys
 220 225 230 235

taacattggtt ctgaggagtt tctactgtgt aaaatctaaa aagaaaataa ctcagccaga 843

tacatttttg aattatgtat gttaactttg atagcatttc ttgtattttt agaccataa 903

atgataatga agtgatattg tgacttggtta aggtcactgt acaggtatgg ccataatggt 963

actaatttta tttcctttaa taaaccttct aaaactgaga catccaaaaa aaaaaaaaaa 1023

a 1024

<210> 12

<211> 235

<212> PRT

<213> Canis familiaris

<400> 12

Met Asp Tyr Thr Ala Lys Trp Arg Thr Pro Pro Leu Lys His Pro Tyr
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Leu Lys Val Ser Gln Leu Leu Val Leu Ala Ser Leu Phe Tyr Phe Cys
 20 25 30

Ser Gly Ile Ile Gln Val Asn Lys Thr Val Lys Glu Val Ala Val Leu
 35 40 45

Ser Cys Asp Tyr Asn Ile Ser Thr Thr Glu Leu Met Lys Val Arg Ile
 50 55 60

Tyr Trp Gln Lys Asp Asp Glu Val Val Leu Ala Val Thr Ser Gly Gln
 65 70 75 80

Thr Lys Val Trp Ser Lys Tyr Glu Asn Arg Thr Phe Ala Asp Phe Thr
 85 90 95

Asn Asn Leu Ser Ile Val Ile Met Ala Leu Arg Leu Ser Asp Asn Gly
 100 105 110

Lys Tyr Thr Cys Ile Val Gln Lys Thr Glu Lys Arg Ser Tyr Lys Val
 115 120 125

Lys His Met Thr Ser Val Met Leu Leu Val Arg Ala Asp Phe Pro Val
 130 135 140

Pro Ser Ile Thr Asp Leu Gly Asn Pro Ser His Asp Ile Lys Arg Ile
 145 150 155 160

Met Cys Ser Thr Ser Gly Gly Phe Pro Lys Pro His Leu Ser Trp Trp
 165 170 175

Glu Asn Glu Glu Glu Leu Asn Ala Ala Asn Thr Thr Val Ser Gln Asp
 180 185 190

Pro Asp Thr Glu Leu Tyr Thr Ile Ser Ser Glu Leu Asp Phe Asn Ile
 195 200 205

Thr Ser Asn His Ser Phe Val Cys Leu Val Lys Tyr Gly Asp Leu Thr
 210 215 220

Val Ser Gln Ile Phe Asn Trp Gln Lys Cys Lys
 225 230 235

<210> 13

<211> 1024

<212> DNA

<213> Canis familiaris

<400> 13

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 atgggtgtht gagtgggtgt gttctccact tcgtgtgtga atccatggct tctgtgtgtg 960
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<210> 14

<211> 705

<212> DNA

<213> Canis familiaris

<400> 14

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acagtgaaag aagtagcagt actgtcctgt gattacaaca tttccactac agaactgatg 180
aaagttcgaa tctattggca aaaggatgat gaagtgggtgc tggctgtcac atctggacaa 240
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atcgtgatta tggctctgcg cctctcagac aatggcaa atacactgtat cgttcaaaag 360
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gacttccttg tccctagtat aactgacctt ggaaatccat cccatgacat caaaaggata 480
atgtgttcaa cctctggagg ttttccaaag cctcacctct cctgggtggga aaatgaagaa 540
gaattgaatg ctgccaacac aacagtttcc caagaccggg aactgagtt gtacactatt 600
agtagtgaac tggatttcaa tataacaagc aaccatagct ttgtgtgtct tgtcaagtat 660
ggagacttaa cagtatcaca gatcttcaac tggcaaaaat gtaag 705

<210> 15
<211> 705
<212> DNA
<213> Canis familiaris

<400> 15
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caciaagcta tggttgcttg ttatattgaa atccagttca ctactaatag tgtacaactc 120
agtgtccggg tcttgggaaa ctgtgtgtgt ggcagcattc aattcttctt cttttccca 180
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gatgcctgaa cagaagtaaa agagactagc tagcaccaag agctgagaga ccttgagata 660

tgggtgtttg agtgggtggtg ttctccactt cgctgtgtaa tccat

705

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<212> DNA

<213> Canis familiaris

<220>

<221> CDS

<222> (7)..(846)

<400> 16

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Met Tyr Leu Arg Cys Thr Met Glu Leu Asn Asn Ile Leu Phe

1

5

10

gtg atg acc ctc ctg ctc tat ggt gct gct tcc atg aag agt caa gca 96

Val Met Thr Leu Leu Leu Tyr Gly Ala Ala Ser Met Lys Ser Gln Ala

15

20

25

30

tat ttc aac aag act gga gaa ctg cca tgc cat ttt aca aat tct caa 144

Tyr Phe Asn Lys Thr Gly Glu Leu Pro Cys His Phe Thr Asn Ser Gln

35

40

45

aac ata agc ctg gat gag ttg gta gtg ttt tgg cag gac cag gat aag 192

Asn Ile Ser Leu Asp Glu Leu Val Val Phe Trp Gln Asp Gln Asp Lys

50

55

60

ctg gtt ctg tac gag cta tac aga ggc aaa gag aac cct caa aat gtt 240

Leu Val Leu Tyr Glu Leu Tyr Arg Gly Lys Glu Asn Pro Gln Asn Val

65

70

75

cat cgc aag tat aag ggc cgc aca agc ttt gac aaa gac aat tgg acc 288

His Arg Lys Tyr Lys Gly Arg Thr Ser Phe Asp Lys Asp Asn Trp Thr

80

85

90

ctg aga ctc cat aat att cag atc aag gac aag ggc ttg tat caa tgt 336

Leu Arg Leu His Asn Ile Gln Ile Lys Asp Lys Gly Leu Tyr Gln Cys

95

100

105

110

ttc gtt cat cat aaa ggg ccc aaa gga ctc gtt ccc atg cac cag atg 384

Phe Val His His Lys Gly Pro Lys Gly Leu Val Pro Met His Gln Met

115

120

125

aat tct gac cta tca gtg ctt gct aac ttc agt caa cct gaa ata atg 432

Asn Ser Asp Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile Met

130 135 140
 gta act tct aat aga aca gaa aat tct ggc atc ata aat ttg acc tgc 480
 Val Thr Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys
 145 150 155
 tca tcc ata caa ggt tac cca gaa ccc aag gag atg tat ttt ttg gta 528
 Ser Ser Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Leu Val
 160 165 170
 aaa acc gag aat tca agt act aag tat gat act gtc atg aag aaa tct 576
 Lys Thr Glu Asn Ser Ser Thr Lys Tyr Asp Thr Val Met Lys Lys Ser
 175 180 185 190
 caa aat aat gtc aca gaa ctc tac aac gtt tct atc agc ttg tcc ttc 624
 Gln Asn Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Ser Phe
 195 200 205
 tca gtc cct gaa gca agc aat gtg agc atc ttc tgt gtc ctg caa ctt 672
 Ser Val Pro Glu Ala Ser Asn Val Ser Ile Phe Cys Val Leu Gln Leu
 210 215 220
 gag tca atg aag ctt ccc tcc cta cct tat aat ata gaa acc aac aaa 720
 Glu Ser Met Lys Leu Pro Ser Leu Pro Tyr Asn Ile Glu Thr Asn Lys
 225 230 235
 gtg gag aga aaa gaa agt gag cag acc aag gaa aga gta cgg tac cat 768
 Val Glu Arg Lys Glu Ser Glu Gln Thr Lys Glu Arg Val Arg Tyr His
 240 245 250
 gaa acg gaa aga tct gat gaa gcc cag tgt gtt aac att tcg aag aca 816
 Glu Thr Glu Arg Ser Asp Glu Ala Gln Cys Val Asn Ile Ser Lys Thr
 255 260 265 270
 gct tca ggc gac aac agt act aca cag ttt taattaaaga gtaaagtcca 866
 Ala Ser Gly Asp Asn Ser Thr Thr Gln Phe
 275 280
 tccattgttt atatgccttc cctttcaaatt ttgggttgctt ctttttctcg tccattaata 926
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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1795

<210> 17

<211> 280

<212> PRT

<213> Canis familiaris

<400> 17

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Thr Leu Leu Leu Tyr Gly Ala Ala Ser Met Lys Ser Gln Ala Tyr Phe
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Asn Lys Thr Gly Glu Leu Pro Cys His Phe Thr Asn Ser Gln Asn Ile
 35 40 45

Ser Leu Asp Glu Leu Val Val Phe Trp Gln Asp Gln Asp Lys Leu Val
 50 55 60

Leu Tyr Glu Leu Tyr Arg Gly Lys Glu Asn Pro Gln Asn Val His Arg
 65 70 75 80

Lys Tyr Lys Gly Arg Thr Ser Phe Asp Lys Asp Asn Trp Thr Leu Arg
 85 90 95

Leu His Asn Ile Gln Ile Lys Asp Lys Gly Leu Tyr Gln Cys Phe Val

100	105	110
His His Lys Gly Pro Lys Gly Leu Val Pro Met His Gln Met Asn Ser		
115	120	125
Asp Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile Met Val Thr		
130	135	140
Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys Ser Ser		
145	150	155
Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Leu Val Lys Thr		
165	170	175
Glu Asn Ser Ser Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn		
180	185	190
Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Ser Phe Ser Val		
195	200	205
Pro Glu Ala Ser Asn Val Ser Ile Phe Cys Val Leu Gln Leu Glu Ser		
210	215	220
Met Lys Leu Pro Ser Leu Pro Tyr Asn Ile Glu Thr Asn Lys Val Glu		
225	230	235
Arg Lys Glu Ser Glu Gln Thr Lys Glu Arg Val Arg Tyr His Glu Thr		
245	250	255
Glu Arg Ser Asp Glu Ala Gln Cys Val Asn Ile Ser Lys Thr Ala Ser		
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Gly Asp Asn Ser Thr Thr Gln Phe		
275	280	

<210> 18

<211> 1795

<212> DNA

<213> Canis familiaris

<400> 18

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atagtgcctt cctgcttcac aaagagctcc ctgctaaggc ttatccatag cttgttaggc 240
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 caaaatatta aagcaacact ataaagccat aacatacaaa actcccaccc agactgcaga 540
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 <211> 840
 <212> DNA
 <213> Canis familiaris

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 ctttttataa attctcaaaa cataagcctg gatgagttgg tagtgttttg gcaggaccag 180
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<210> 20
 <211> 840
 <212> DNA
 <213> Canis familiaris

<400> 20

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<210> 21

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 21

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18

<210> 22

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 22

gtagaaactc ctcagaacaa tg

22

<210> 23

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 23

gtagtattttt ggcaggacc

19

<210> 24

<211> 23

<212> DNA

<213> Canis familiaris

<400> 24

tagaygsgca ggtcaaattt atg

23

<210> 25

<211> 2830

<212> DNA

<213> Felis catus

<220>

<221> CDS

<222> (179)..(1174)

<400> 25

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ctgtgttcct cggaatgtc actgagctta tacatctggt ctctgggagc tgcagtgg 178

atg ggc att tgt gac agc act atg gga ctg agt cac act ctc ctt gtg 226

Met Gly Ile Cys Asp Ser Thr Met Gly Leu Ser His Thr Leu Leu Val

1

5

10

15

atg gcc ctc ctg ctc tct ggt gtt tct tcc atg aag agt caa gca tat 274
 Met Ala Leu Leu Leu Ser Gly Val Ser Ser Met Lys Ser Gln Ala Tyr
 20 25 30

ttc aac aag act gga gaa ctg cca tgc cat ttt aca aac tct caa aac 322
 Phe Asn Lys Thr Gly Glu Leu Pro Cys His Phe Thr Asn Ser Gln Asn
 35 40 45

ata agc ctg gat gag ctg gta gta ttt tgg cag gac cag gat aag ctg 370
 Ile Ser Leu Asp Glu Leu Val Val Phe Trp Gln Asp Gln Asp Lys Leu
 50 55 60

gtt ctg tat gag ata ttc aga ggc aaa gag aac cct caa aat gtt cat 418
 Val Leu Tyr Glu Ile Phe Arg Gly Lys Glu Asn Pro Gln Asn Val His
 65 70 75 80

ctc aaa tat aag ggc cgt aca agc ttt gac aag gac aac tgg acc ctg 466
 Leu Lys Tyr Lys Gly Arg Thr Ser Phe Asp Lys Asp Asn Trp Thr Leu
 85 90 95

aga ctc cac aat gtt cag atc aag gac aag ggc aca tat cac tgt ttc 514
 Arg Leu His Asn Val Gln Ile Lys Asp Lys Gly Thr Tyr His Cys Phe
 100 105 110

att cat tat aaa ggg ccc aaa gga cta gtt ccc atg cac caa atg agt 562
 Ile His Tyr Lys Gly Pro Lys Gly Leu Val Pro Met His Gln Met Ser
 115 120 125

tct gac cta tca gtg ctt gct aac ttc agt caa cct gaa ata aca gta 610
 Ser Asp Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile Thr Val
 130 135 140

act tct aat aga aca gaa aat tct ggc atc ata aat ttg acc tgc tca 658
 Thr Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys Ser
 145 150 155 160

tct ata caa ggt tac cca gaa cct aag gag atg tat ttt cag cta aac 706
 Ser Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn
 165 170 175

act gag aat tca act act aag tat gat act gtc atg aag aaa tct caa 754
 Thr Glu Asn Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln
 180 185 190

aat aat gtg aca gaa ctg tac aac gtt tct atc agc ttg cct ttt tca 802
 Asn Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Pro Phe Ser
 195 200 205

gtc cct gaa gca cac aat gtg agc gtc ttt tgt gcc ctg aaa ctg gag 850
 Val Pro Glu Ala His Asn Val Ser Val Phe Cys Ala Leu Lys Leu Glu
 210 215 220

aca ctg gag atg ctg ctc tcc cta cct ttc aat ata gat gca caa cct 898
 Thr Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Asp Ala Gln Pro
 225 230 235 240

aag gat aaa gac cct gaa caa ggc cac ttc ctc tgg att gcg gct gta 946
 Lys Asp Lys Asp Pro Glu Gln Gly His Phe Leu Trp Ile Ala Ala Val
 245 250 255

ctt gta atg ttt gtt gtt ttt tgt ggg atg gtg tcc ttt aaa aca cta 994
 Leu Val Met Phe Val Val Phe Cys Gly Met Val Ser Phe Lys Thr Leu
 260 265 270

agg aaa agg aag aag aag cag cct ggc ccc tct cat gaa tgt gaa acc 1042
 Arg Lys Arg Lys Lys Lys Gln Pro Gly Pro Ser His Glu Cys Glu Thr
 275 280 285

atc aaa agg gag aga aaa gag agc aaa cag acc aac gaa aga gta cca 1090
 Ile Lys Arg Glu Arg Lys Glu Ser Lys Gln Thr Asn Glu Arg Val Pro
 290 295 300

tac cac gta cct gag aga tct gat gaa gcc cag tgt att aac att ttg 1138
 Tyr His Val Pro Glu Arg Ser Asp Glu Ala Gln Cys Ile Asn Ile Leu
 305 310 315 320

aag aca gcc tca ggc gac aaa agt act aca cat ttt taattaaaga 1184
 Lys Thr Ala Ser Gly Asp Lys Ser Thr Thr His Phe
 325 330

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<210> 26

<211> 332

<212> PRT

<213> Felis catus

<400> 26

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 Phe Asn Lys Thr Gly Glu Leu Pro Cys His Phe Thr Asn Ser Gln Asn
 35 40 45
 Ile Ser Leu Asp Glu Leu Val Val Phe Trp Gln Asp Gln Asp Lys Leu
 50 55 60
 Val Leu Tyr Glu Ile Phe Arg Gly Lys Glu Asn Pro Gln Asn Val His
 65 70 75 80
 Leu Lys Tyr Lys Gly Arg Thr Ser Phe Asp Lys Asp Asn Trp Thr Leu
 85 90 95
 Arg Leu His Asn Val Gln Ile Lys Asp Lys Gly Thr Tyr His Cys Phe
 100 105 110
 Ile His Tyr Lys Gly Pro Lys Gly Leu Val Pro Met His Gln Met Ser
 115 120 125
 Ser Asp Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile Thr Val
 130 135 140
 Thr Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys Ser
 145 150 155 160
 Ser Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn
 165 170 175
 Thr Glu Asn Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln
 180 185 190
 Asn Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Pro Phe Ser
 195 200 205
 Val Pro Glu Ala His Asn Val Ser Val Phe Cys Ala Leu Lys Leu Glu
 210 215 220
 Thr Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Asp Ala Gln Pro
 225 230 235 240
 Lys Asp Lys Asp Pro Glu Gln Gly His Phe Leu Trp Ile Ala Ala Val
 245 250 255

Leu Val Met Phe Val Val Phe Cys Gly Met Val Ser Phe Lys Thr Leu
260 265 270

Arg Lys Arg Lys Lys Lys Gln Pro Gly Pro Ser His Glu Cys Glu Thr
275 280 285

Ile Lys Arg Glu Arg Lys Glu Ser Lys Gln Thr Asn Glu Arg Val Pro
290 295 300

Tyr His Val Pro Glu Arg Ser Asp Glu Ala Gln Cys Ile Asn Ile Leu
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Lys Thr Ala Ser Gly Asp Lys Ser Thr Thr His Phe
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<210> 27

<211> 2830

<212> DNA

<213> Felis catus

<400> 27

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<210> 28

<211> 996

<212> DNA

<213> Felis catus

<400> 28

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<210> 29
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 <212> DNA
 <213> Felis catus

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 tagggagagc agcatctcca gtgtctccag tttcaggga caaaagacgc tcacattgtg 360
 tgcttcaggg actgaaaaag gcaagctgat agaaacgttg tacagttctg tcacattatt 420
 ttgagatttc ttcattgacag tatcatactt agtagttgaa ttctcagtgt ttagctgaaa 480
 atacatctcc ttaggttctg ggtaaccttg tatagatgag cagggtcaaatt ttatgatgcc 540
 agaattttct gttctattag aagttactgt tatttcaggt tgactgaagt tagcaagcac 600
 tgataggtca gaactcattt ggtgcatggg aactagtcct ttgggccctt tataatgaat 660
 gaaacagtga tatgtgccct tgctcttgat ctgaacattg tggagtctca ggtccagtt 720
 gtccttgatca aagcttgatc ggcccttata tttgagatga acattttgag ggttctcttt 780

gcctctgaat atctcataca gaaccagctt atcctgggtcc tgccaaaata ctaccagctc 840
 atccaggctt atgttttgag agtttgtaaa atggcatggc agttctccag tcttggtgaa 900
 atatgcttga ctcttcatgg aagaaacacc agagagcagg agggccatca caaggagagt 960
 gtgactcagt cccatagtgc tgtcacaat gcccat 996

<210> 30

<211> 509

<212> DNA

<213> Felis catus

<220>

<221> CDS

<222> (1)..(507)

<400> 30

ata caa ggt tac cca gaa cct aag gag atg tat ttt cag cta aac act 48
 Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn Thr
 1 5 10 15

gag aat tca act act aag tat gat act gtc atg aag aaa tct caa aat 96
 Glu Asn Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn
 20 25 30

aat gtg aca gaa ctg tac aac gtt tct atc agc ttg cct ttt tca gtc 144
 Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Pro Phe Ser Val
 35 40 45

cct gaa gca cac aat gtg agc gtc ttt tgt gcc ctg aaa ctg gag aca 192
 Pro Glu Ala His Asn Val Ser Val Phe Cys Ala Leu Lys Leu Glu Thr
 50 55 60

ctg gag atg ctg ctc tcc cta cct ttc aat ata gat gca caa cct aag 240
 Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Asp Ala Gln Pro Lys
 65 70 75 80

gat aaa gac cct gaa caa ggc cac ttc ctc tgg att gcg gct gta ctt 288
 Asp Lys Asp Pro Glu Gln Gly His Phe Leu Trp Ile Ala Ala Val Leu
 85 90 95

gta atg ttt gtt gtt ttt tgt ggg atg gtg tcc ttt aaa aca cta agg 336
 Val Met Phe Val Val Phe Cys Gly Met Val Ser Phe Lys Thr Leu Arg
 100 105 110

aaa agg aag aag aag cag cct ggc ccc tct cat gaa tgt gaa acc atc 384

Lys Arg Lys Lys Lys Gln Pro Gly Pro Ser His Glu Cys Glu Thr Ile
 115 120 125
 aaa agg gag aga aaa gag agc aaa cag acc aac gaa aga gta cca tac 432
 Lys Arg Glu Arg Lys Glu Ser Lys Gln Thr Asn Glu Arg Val Pro Tyr
 130 135 140
 cac gta cct gag aga tct gat gaa gcc cag tgt att aac att ttg aag 480
 His Val Pro Glu Arg Ser Asp Glu Ala Gln Cys Ile Asn Ile Leu Lys
 145 150 155 160
 aca gcc tca ggc gac aaa agt act aca ca 509
 Thr Ala Ser Gly Asp Lys Ser Thr Thr
 165
 <210> 31
 <211> 169
 <212> PRT
 <213> Felis catus
 <400> 31
 Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn Thr
 1 5 10 15
 Glu Asn Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn
 20 25 30
 Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Pro Phe Ser Val
 35 40 45
 Pro Glu Ala His Asn Val Ser Val Phe Cys Ala Leu Lys Leu Glu Thr
 50 55 60
 Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Asp Ala Gln Pro Lys
 65 70 75 80
 Asp Lys Asp Pro Glu Gln Gly His Phe Leu Trp Ile Ala Ala Val Leu
 85 90 95
 Val Met Phe Val Val Phe Cys Gly Met Val Ser Phe Lys Thr Leu Arg
 100 105 110
 Lys Arg Lys Lys Lys Gln Pro Gly Pro Ser His Glu Cys Glu Thr Ile
 115 120 125
 Lys Arg Glu Arg Lys Glu Ser Lys Gln Thr Asn Glu Arg Val Pro Tyr
 130 135 140

His Val Pro Glu Arg Ser Asp Glu Ala Gln Cys Ile Asn Ile Leu Lys
 145 150 155 160

Thr Ala Ser Gly Asp Lys Ser Thr Thr
 165

<210> 32
 <211> 509
 <212> DNA
 <213> Felis catus

<400> 32
 tgtgtagtac ttttgtcgcc tgaggctgtc ttcaaaatgt taatacactg ggcttcatca 60
 gatctctcag gtacgtggta tgggtactctt tcgttggctc gtttgccttc tttctctccc 120
 cttttgatgg tttcacattc atgagagggg ccaggctgct tcttcttccc tttccttagt 180
 gttttaaaagg acaccatccc acaaaaaaca acaaacatta caagtacagc cgcaatccag 240
 aggaagtggc cttgttcagg gtctttatcc ttaggttgtg catctatatt gaaaggtagg 300
 gagagcagca tctccagtgt ctccagtttc agggcacaaa agacgctcac attgtgtgct 360
 tcagggactg aaaaaggcaa gctgatagaa acgttgtaca gttctgtcac attatattga 420
 gatttcttca tgacagtatc atacttagta gttgaattct cagtgtttag ctgaaaatac 480
 atctccttag gttctgggta acctgttat 509

<210> 33
 <211> 359
 <212> DNA
 <213> Felis catus

<220>
 <221> CDS
 <222> (1)..(357)

<400> 33
 ata caa ggt tac cca gaa cct aag gag atg tat ttt cag cta aac act 48
 Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn Thr
 1 5 10 15
 gag aat tca act act aag tat gat act gtc atg aag aaa tct caa aat 96

Glu Asn Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn
 20 25 30

 aat gtg aca gaa ctg tac aac gtt tct atc agc ttg cct ttt tca gtc 144
 Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Pro Phe Ser Val
 35 40 45

 cct gaa gca cac aat gtg agc gtc ttt tgt gcc ctg aaa ctg gag aca 192
 Pro Glu Ala His Asn Val Ser Val Phe Cys Ala Leu Lys Leu Glu Thr
 50 55 60

 ctg gag atg ctg ctc tcc cta cct ttc aat ata gaa acc atc aaa agg 240
 Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Glu Thr Ile Lys Arg
 65 70 75 80

 gag aga aaa gag agc aaa cag acc aac gaa aga gta cca tac cac gta 288
 Glu Arg Lys Glu Ser Lys Gln Thr Asn Glu Arg Val Pro Tyr His Val
 85 90 95

 cct gag aga tct gat gaa gcc cag tgt att aac att ttg aag aca gcc 336
 Pro Glu Arg Ser Asp Glu Ala Gln Cys Ile Asn Ile Leu Lys Thr Ala
 100 105 110

 tca ggc gac aaa agt act aca ca 359
 Ser Gly Asp Lys Ser Thr Thr
 115

<210> 34

<211> 119

<212> PRT

<213> Felis catus

<400> 34

Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn Thr
 1 5 10 15

Glu Asn Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn
 20 25 30

Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Pro Phe Ser Val
 35 40 45

Pro Glu Ala His Asn Val Ser Val Phe Cys Ala Leu Lys Leu Glu Thr
 50 55 60

Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Glu Thr Ile Lys Arg
 65 70 75 80

Glu Arg Lys Glu Ser Lys Gln Thr Asn Glu Arg Val Pro Tyr His Val
 85 90 95

Pro Glu Arg Ser Asp Glu Ala Gln Cys Ile Asn Ile Leu Lys Thr Ala
 100 105 110

Ser Gly Asp Lys Ser Thr Thr
 115

<210> 35

<211> 359

<212> DNA

<213> Felis catus

<400> 35

tgtgtagtac ttttgtcgcc tgaggctgtc ttcaaatgt taatacactg ggcttcatca 60
 gatctctcag gtacgtggta tggactctt tcgttggtct gtttgccttc ttttctctcc 120
 cttttgatgg tttctatatt gaaaggtagg gagagcagca tctccagtgt ctccagtttc 180
 agggcacaaa agacgctcac atttgtgtgt tcagggactg aaaaaggcaa gctgatagaa 240
 acgttgtaca gttctgtcac attattttga gatttcttca tgacagtatc atacttagta 300
 gttgaattct cagtgttttag ctgaaaatac atctccttag gttctgggta acctgtat 359

<210> 36

<211> 594

<212> DNA

<213> Felis catus

<220>

<221> CDS

<222> (1)..(522)

<400> 36

atg ggt cac gca gca aag tgg aaa aca cca cta ctg aag cac cca tat 48
 Met Gly His Ala Ala Lys Trp Lys Thr Pro Leu Leu Lys His Pro Tyr
 1 5 10 15
 ccc aag ctc ttt ccg ctc ttg atg cta gct agt ctt ttt tac ttc tgt 96
 Pro Lys Leu Phe Pro Leu Leu Met Leu Ala Ser Leu Phe Tyr Phe Cys
 20 25 30

tca ggt atc atc cag gtg aac aag aca gtg gaa gaa gta gca gta cta 144
 Ser Gly Ile Ile Gln Val Asn Lys Thr Val Glu Glu Val Ala Val Leu
 35 40 45

tcc tgt gat tac aac att tcc acc aaa gaa ctg acg gaa att cga atc 192
 Ser Cys Asp Tyr Asn Ile Ser Thr Lys Glu Leu Thr Glu Ile Arg Ile
 50 55 60

tat tgg caa aag gat gat gaa atg gtg ttg gct gtc atg tct ggc aaa 240
 Tyr Trp Gln Lys Asp Asp Glu Met Val Leu Ala Val Met Ser Gly Lys
 65 70 75 80

gta caa gtg tgg ccc aag tac aag aac cgc aca ttc act gac gtc acc 288
 Val Gln Val Trp Pro Lys Tyr Lys Asn Arg Thr Phe Thr Asp Val Thr
 85 90 95

gat aac cac tcc att gtg atc atg gct ctg cgc ctg tca gac aat ggc 336
 Asp Asn His Ser Ile Val Ile Met Ala Leu Arg Leu Ser Asp Asn Gly
 100 105 110

aaa tac act tgt att att caa aag att gaa aaa ggg tct tac aaa gtg 384
 Lys Tyr Thr Cys Ile Ile Gln Lys Ile Glu Lys Gly Ser Tyr Lys Val
 115 120 125

aaa cac ctg act tcg gtg atg tta ttg gtc aga ggc gtc aca ccc agc 432
 Lys His Leu Thr Ser Val Met Leu Leu Val Arg Gly Val Thr Pro Ser
 130 135 140

aca gag ccc aat gcc cat gcg gag ctt gaa atc atg acc ctg aga tca 480
 Thr Glu Pro Asn Ala His Ala Glu Leu Glu Ile Met Thr Leu Arg Ser
 145 150 155 160

aga cct gag ctg aga tca aga gtc gga cgc tta atc gac tga 522
 Arg Pro Glu Leu Arg Ser Arg Val Gly Arg Leu Ile Asp
 165 170

gccacccagg catcccaatg atactttcta aataaactct taaaaaaaaa aaaaaaaaaa 582

aaaaaaaaaa aa 594

<210> 37
 <211> 173
 <212> PRT
 <213> Felis catus

<400> 37
 Met Gly His Ala Ala Lys Trp Lys Thr Pro Leu Leu Lys His Pro Tyr

1 5 10 15
 Pro Lys Leu Phe Pro Leu Leu Met Leu Ala Ser Leu Phe Tyr Phe Cys
 20 25 30
 Ser Gly Ile Ile Gln Val Asn Lys Thr Val Glu Glu Val Ala Val Leu
 35 40 45
 Ser Cys Asp Tyr Asn Ile Ser Thr Lys Glu Leu Thr Glu Ile Arg Ile
 50 55 60
 Tyr Trp Gln Lys Asp Asp Glu Met Val Leu Ala Val Met Ser Gly Lys
 65 70 75 80
 Val Gln Val Trp Pro Lys Tyr Lys Asn Arg Thr Phe Thr Asp Val Thr
 85 90 95
 Asp Asn His Ser Ile Val Ile Met Ala Leu Arg Leu Ser Asp Asn Gly
 100 105 110
 Lys Tyr Thr Cys Ile Ile Gln Lys Ile Glu Lys Gly Ser Tyr Lys Val
 115 120 125
 Lys His Leu Thr Ser Val Met Leu Leu Val Arg Gly Val Thr Pro Ser
 130 135 140
 Thr Glu Pro Asn Ala His Ala Glu Leu Glu Ile Met Thr Leu Arg Ser
 145 150 155 160
 Arg Pro Glu Leu Arg Ser Arg Val Gly Arg Leu Ile Asp
 165 170

<210> 38

<211> 594

<212> DNA

<213> Felis catus

<400> 38

tttttttttt tttttttttt tttttttttt taagagttta tttagaaagt atcattggga 60
 tgcttgggtg gtcagtcga ttaagcgtcc gactcttgat ctgagctcag gtcttgatct 120
 cagggtcatg atttcaagct ccgcatgggc attgggctct gtgctgggtg tgacgcctct 180
 gaccaataac atcaccgaag tcagggtgtt cactttgtaa gacccttttt caatcttttg 240
 aataatacaa gtgtatttgc cattgtctga caggcgcaga gccatgatca caatggagtg 300

gttatcgggtg acgtcagtga atgtgcgggtt cttgtacttg ggccacactt gtactttgcc 360
 agacatgaca gccaacacca tttcatcatc cttttgccaa tagattcgaa tttccgtcag 420
 ttctttgggtg gaaatgttgt aatcacagga tagtactgct acttcttcca ctgtcttggt 480
 cacctggatg atacctgaac agaagtaaaa aagactagct agcatcaaga gcggaaagag 540
 cttgggatat ggggtgcttca gtagtgggtg tttccacttt gctgcgtgac ccat 594

<210> 39
 <211> 519
 <212> DNA
 <213> Felis catus

<400> 39
 atgggtcacg cagcaaagtg gaaaacacca ctactgaagc acccatatcc caagctcttt 60
 ccgctcttga tgctagctag tcttttttac ttctgttcag gtatcatcca ggtgaacaag 120
 acagtggaag aagtagcagt actatcctgt gattacaaca tttccaccaa agaactgacg 180
 gaaattcgaa tctattggca aaaggatgat gaaatgggtg tggctgtcat gtctggcaaa 240
 gtacaagtgt ggcccaagta caagaaccgc acattcactg acgtcaccga taaccactcc 300
 attgtgatca tggctctgcg cctgtcagac aatggcaa at acatttgtat tattcaaaag 360
 attgaaaaag ggtcttacaa agtgaaacac ctgacttcgg tgatgttatt ggtcagaggc 420
 gtcacaccca gcacagagcc caatgccc at gcggagcttg aaatcatgac cctgagatca 480
 agacctgagc tgagatcaag agtcggacgc ttaatcgac 519

<210> 40
 <211> 519
 <212> DNA
 <213> Felis catus

<400> 40
 gtcgattaag cgtccgactc ttgatctcag ctgaggtctt gatctcaggg tcatgatttc 60
 aagctccgca tgggcattgg gctctgtgct ggggtgtgacg cctctgacca ataacatcac 120
 cgaagtcagg tgtttcactt tgtaagaccc tttttcaatc ttttgaataa tacaagtgtg 180

tttgccattg tctgacaggc gcagagccat gatcacaatg gagtggttat cggtgacgtc 240
 agtgaatgtg cggttcttgt acttgggccca cacttgact ttgccagaca tgacagccaa 300
 caccatttca tcaccccttt gccaatagat tcgaatttcc gtcagttctt tgggtggaaat 360
 gttgtaatca caggatagta ctgctacttc ttccactgtc ttgttcacct ggatgatacc 420
 tgaacagaag taaaaaagac tagctagcat caagagcgga aagagcttgg gatatgggtg 480
 cttcagtagt ggtgttttcc actttgctgc gtgacccat 519

<210> 41

<211> 1856

<212> DNA

<213> Canis familiaris

<220>

<221> CDS

<222> (60)..(731)

<400> 41

caggatcctg aaaggtttca ctctgcttcc tgaagacctg aacactgctc cataaagcc 59

atg gct ggc ttt gga ttc cgg agg cat ggg gct cag ccg gac ctg gct 107
 Met Ala Gly Phe Gly Phe Arg Arg His Gly Ala Gln Pro Asp Leu Ala
 1 5 10 15

tct agg acc tgg ccc tgc act gct ctg ttt tct ctt ctc ttt atc ccc 155
 Ser Arg Thr Trp Pro Cys Thr Ala Leu Phe Ser Leu Leu Phe Ile Pro
 20 25 30

gtc ttc tcc aaa ggg atg cat gtg gct cag cct gca gtg gtt ctg gcc 203
 Val Phe Ser Lys Gly Met His Val Ala Gln Pro Ala Val Val Leu Ala
 35 40 45

agc agc cgg ggt gtt gct agc ttc gtg tgt gaa tat ggg tct tca ggc 251
 Ser Ser Arg Gly Val Ala Ser Phe Val Cys Glu Tyr Gly Ser Ser Gly
 50 55 60

aac gca gcc gag gtc cgg gtg aca gtg ctg cgg cag gct ggc agc cag 299
 Asn Ala Ala Glu Val Arg Val Thr Val Leu Arg Gln Ala Gly Ser Gln
 65 70 75 80

atg act gaa gtc tgt gcc gcg aca tac aca gtg gag gat gag ttg gcc 347
 Met Thr Glu Val Cys Ala Ala Thr Tyr Thr Val Glu Asp Glu Leu Ala

85	90	95	
ttc ctg gat gat tct acc tgc acc ggc acc tcc agt gga aac aaa gtg			395
Phe Leu Asp Asp Ser Thr Cys Thr Gly Thr Ser Ser Gly Asn Lys Val			
100	105	110	
aac ctc acc atc caa ggg ttg agg gcc atg gac acg ggg ctc tac atc			443
Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile			
115	120	125	
tgc aag gtg gag ctc atg tac cca cca ccc tac tat gta ggc atg gga			491
Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Val Gly Met Gly			
130	135	140	
aat gga acc cag att tat gtc atc gat cct gaa cct tgc cca gat tct			539
Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser			
145	150	155	160
gac ttc ctc ctc tgg atc ctt gca gca gtc agt tgc ggc ttg ttt ttt			587
Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe			
165	170	175	
tat agc ttt ctt atc aca gct gtt tct ttg agc aaa atg cta aag aaa			635
Tyr Ser Phe Leu Ile Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys			
180	185	190	
aga agc cct ctt acc aca ggg gtc tat gtg aaa atg ccc cca act gag			683
Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu			
195	200	205	
cca gaa tgt gaa aag caa ttt cag cct tat ttt att ccc atc aat tga			731
Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn			
210	215	220	
gagatcatta tgaagaagaa agaatat ttt ccaattcca ggagctgagg caattctaac 791			
tttgtgctat ccagctatgt gtacttg ttt gtatat tttg ggggggg ttt catctctctt 851			
taatataaag ctggatgcag aacccaaatg aagtgtacta caaattcaaa gcaaagggtgc 911			
aagaaaacag agccaggatg tttctgtcac atcagatcca attttcgtaa aagtatcact 971			
tgggagcaat atggggatgc agcattagga catgcgctct aggatatagg ttagggagtg 1031			
gtgcgggtcca aagaaagcaa aggagagaga gtcagggaga ggatgatatt gtacacactt 1091			
tgtattttaca tgtgagaagt ttatagctga agtgacgttt tcaagttaaa tttttgtgct 1151			

atgttatttt tcataaatgt aaaatcacgt gaagacttta aaaatattca catggctata 1211
 ttttagccag tgattccaaa ggttgattg taccaatata tttttttta tctgatagta 1271
 ttatgcatgg gggccacatg tgcttttggtg tttttgtga tggtttcaat ataaacacta 1331
 tatggcagtg tcttcccacc aggggctcag ggggaagtttt atggagggat tcaggacact 1391
 aatacgccag gtaaaataca aggtcacttg gtaactggct tggaaactgg atgaggtcat 1451
 agttgattct tgtagacgtg ttgggctaaa ttggtgtga catgtgcttt gggcttttat 1511
 gttagctcct ttcaaagatt tgtaaggag tcaaaactgg tatatctgat ttaactccat 1571
 agaacaccat cgtcaagtaa acggctcatt ccaggagtct tggaggtatg aacttcaagg 1631
 aagctctagt ttcacaaggg cccaattcc ttgctcatgg ttaatgccat gggcagaaaa 1691
 cagcagcagg tggcagaaca ggtgatgaa gggttccgaa acaaacact gttggtgttt 1751
 ttttaactca ctattttctg tgaaaatgca acaacatgta taatattttt aattaaataa 1811
 aaatctgtgg tggtcattaa aaaaaaaaaa aaaaaaaaaa aaaaa 1856

<210> 42

<211> 223

<212> PRT

<213> Canis familiaris

<400> 42

Met Ala Gly Phe Gly Phe Arg Arg His Gly Ala Gln Pro Asp Leu Ala
 1 5 10 15

Ser Arg Thr Trp Pro Cys Thr Ala Leu Phe Ser Leu Leu Phe Ile Pro
 20 25 30

Val Phe Ser Lys Gly Met His Val Ala Gln Pro Ala Val Val Leu Ala
 35 40 45

Ser Ser Arg Gly Val Ala Ser Phe Val Cys Glu Tyr Gly Ser Ser Gly
 50 55 60

Asn Ala Ala Glu Val Arg Val Thr Val Leu Arg Gln Ala Gly Ser Gln
 65 70 75 80

Met Thr Glu Val Cys Ala Ala Thr Tyr Thr Val Glu Asp Glu Leu Ala
 85 90 95

Phe Leu Asp Asp Ser Thr Cys Thr Gly Thr Ser Ser Gly Asn Lys Val
 100 105 110

Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile
 115 120 125

Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Val Gly Met Gly
 130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe
 165 170 175

Tyr Ser Phe Leu Ile Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
 180 185 190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
 195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
 210 215 220

<210> 43

<211> 1856

<212> DNA

<213> Canis familiaris

<400> 43

tttttttttt tttttttttt tttttttaat gaccaccaca gattttttatt taattaaaaa 60

tattatacat gttgttgcat tttcacagaa aatagtgagt taaaaaaaca ccaacagtgt 120

ttgttttcgg aaaccttcat caccctgttc tgccacctgc tgctgttttc tgcccatggc 180

attaaccatg agcaaggaat tggggccctt gtgaaactag agcttccttg aagttcatatc 240

ctccaagact cctggaatga gccgtttact tgacgatggt gttctatgga gttaaatcag 300

atataccagt tttgactccc ttacaaatct ttgaaaggag ctaacataaa agcccaaagc 360

acatgtcaac accaatttag cccaacacgt ctacaagaat caactatgac ctcatccagt 420

ttccaagcca gttaccaagt gaccttgat tttacctggc gtattagtgt cctgaatccc 480

tccataaaac ttcccctgag cccctggtgg gaagacactg ccatatagtg tttatattga 540
 aaccatcaac aaatacacia aagcacatgt ggcccccatg cataatacta tcagataaaa 600
 aaatatatat tgggtacaata caacctttgg aatcactggc taaaatatag ccatgtgaat 660
 atttttaaag tcttcacgtg attttacatt tatgaaaaat aacatagcac aaaaatttaa 720
 cttgaaaacg tcacttcagc tataaacttc tcacatgtaa atacaaagtg tgtacaatat 780
 catcctctcc ctgactctct ctcccttggt ttctttggac cgcaccactc cctaacctat 840
 atcctagagc gcatgtccta atgctgcac cccatattgc tcccaagtga tacttttacg 900
 aaaattggat ctgatgtgac agaaacatcc tggctctgtt ttcttgacc tttgctttga 960
 attttagta cacttcattt gggttctgca tccagcttta tattaagag agatgaaacc 1020
 cccccaaaa tatacaaaca agtacacata gctggatagc acaaagttag aattgcctca 1080
 gtcctggaa attggaaaat attctttctt cttcataatg atctctcaat tgatgggaat 1140
 aaaataaggc tgaaattgct tttcacattc tggctcagtt gggggcattt tcacatagac 1200
 ccctgtgta agagggcttc tttcttttag cattttgctc aaagaaacag ctgtgataag 1260
 aaagctataa aaaaacaagc ccgaactgac tgctgcaagg atccagagga ggaagtcaga 1320
 atctgggcaa gggtcaggat cgatgacata aatctgggtt ccatttccca tgcctacata 1380
 gtaggggtgt ggggtacatga gctccacctt gcagatgtag agccccgtgt ccatggccct 1440
 caacccttgg atggtgaggt tcactttggt tccactggag gtgccggtgc aggtagaatc 1500
 atccaggaag gccaaactcat cctccactgt gtatgtcgcg gcacagactt cagtcactctg 1560
 gctgccagcc tgccgcagca ctgtcacccg gacctcggt gcgttgctg aagaccata 1620
 ttcacacacg aagctagcaa cccccggt gctggccaga accactgcag gctgagccac 1680
 atgcatcctt ttggagaaga cggggataaa gagaagagaa aacagagcag tgcagggcc 1740
 ggtcctagaa gccaggtccg gctgagcccc atgcctccgg aatccaaagc cagccatggc 1800
 tttatggagc agtggttcagg tcttcaggaa gcagagtga acctttcagg atcctg 1856

<210> 44

<211> 669
<212> DNA
<213> Canis familiaris

<400> 44
atggctggct ttggattccg gaggcattgg gctcagccgg acctggcttc taggacctgg 60
ccctgcactg ctctgttttc tcttctcttt atccccgtct tctccaaagg gatgcatgtg 120
gctcagcctg cagtggttct ggccagcagc cgggggtgtg ctagcttcgt gtgtgaatat 180
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gacttcctcc tctggatcct tgcagcagtc agttcgggct tgttttttta tagctttctt 540
atcacagctg tttctttgag caaatgcta aagaaaagaa gccctcttac cacaggggtc 600
tatgtgaaaa tgcccccaac tgagccagaa tgtgaaaagc aatttcagcc ttattttatt 660
cccatcaat 669

<210> 45
<211> 669
<212> DNA
<213> Canis familiaris

<400> 45
attgatggga ataaaataag gctgaaattg cttttcacat tctggctcag ttgggggcat 60
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agctgtgata agaaagctat aaaaaaaca gcccgaactg actgctgcaa ggatccagag 180
gaggaagtca gaatctgggc aaggttcagg atcgatgaca taaatctggg ttccatttcc 240
catgcctaca tagtaggggt gtgggtacat gagctccacc ttgcagatgt agagccccgt 300
gtccatggcc ctcaaccctt ggatggtgag gttcaacttg tttccactgg aggtgccggt 360

gcaggtagaa tcatccagga aggccaaactc atcctccact gtgtatgtcg cggcacagac 420
 ttcagtcatac tggtgccag cctgccgcag cactgtcacc cggacctcgg ctgcgttgcc 480
 tgaagaccca tattcacaca cgaagctagc aacaccccggtg ctgctggcca gaaccactgc 540
 aggtctgagcc acatgcatcc ctttgagagaa gacggggata aagagaagag aaaacagagc 600
 agtgcagggc caggtcctag aagccaggtc cggctgagcc ccatgcctcc ggaatccaaa 660
 gccagccat 669

<210> 46
 <211> 1883
 <212> DNA
 <213> Felis catus

<220>
 <221> CDS
 <222> (69)..(740)

<400> 46
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ataaagcc atg gct tgc ttt gga ttc cgg agg cat ggg gct cag ctg gac 110
 Met Ala Cys Phe Gly Phe Arg Arg His Gly Ala Gln Leu Asp
 1 5 10

ctg gct tct agg acc tgg ccc tgc act gct ctg ttt tct ctt ctc ttt 158
 Leu Ala Ser Arg Thr Trp Pro Cys Thr Ala Leu Phe Ser Leu Leu Phe
 15 20 25 30

atc ccc gtc ttc tcc aaa ggg atg cat gtg gcc cag cct gca gtg gtg 206
 Ile Pro Val Phe Ser Lys Gly Met His Val Ala Gln Pro Ala Val Val
 35 40 45

ctg gcc agc agc cga ggt gtc gcc agc ttc gtg tgt gaa tat ggg tct 254
 Leu Ala Ser Ser Arg Gly Val Ala Ser Phe Val Cys Glu Tyr Gly Ser
 50 55 60

tca ggc aat gcc gcc gaa gtc cga gtg act gtg ctg agg cag act ggc 302
 Ser Gly Asn Ala Ala Glu Val Arg Val Thr Val Leu Arg Gln Thr Gly
 65 70 75

agc cag atg act gaa gtc tgt gct gcg aca tac aca gtg gag aat gag 350
 Ser Gln Met Thr Glu Val Cys Ala Ala Thr Tyr Thr Val Glu Asn Glu
 80 85 90

ttg gcc ttc cta gat gat tcc acc tgc act ggc atc tcc agc gga aac 398
 Leu Ala Phe Leu Asp Asp Ser Thr Cys Thr Gly Ile Ser Ser Gly Asn
 95 100 105 110

aaa gtg aac ctc acc atc caa ggg ttg agg gcc atg gac acg gga ctc 446
 Lys Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu
 115 120 125

tac atc tgc aag gtg gag ctc atg tac cca cca ccc tac tat gca ggc 494
 Tyr Ile Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Ala Gly
 130 135 140

atg ggc aat gga acc cag att tat gtc atc gat cct gaa cct tgc cca 542
 Met Gly Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro
 145 150 155

gat tct gac ttc ctc ctc tgg atc ctc gca gca gtc agt tca gga ttg 590
 Asp Ser Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu
 160 165 170

ttt ttt tat agc ttc ctt atc aca gct gtt tct ttg agc aaa atg cta 638
 Phe Phe Tyr Ser Phe Leu Ile Thr Ala Val Ser Leu Ser Lys Met Leu
 175 180 185 190

aag aaa aga agc cct ctt act aca ggg gtc tat gtg aaa atg ccc cca 686
 Lys Lys Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro
 195 200 205

aca gag cca gaa tgt gaa aag caa ttt cag cct tat ttt att ccc atc 734
 Thr Glu Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile
 210 215 220

aat tga cacaccgtta tgaagaagga agaacactgt ccaatttcta agagctgagg 790
 Asn

caattctaac tttttgctat ccagctatgt tgcttatttg tgtatttttg ggggggattc 850

atctctcttt aatataaagc tggatgcaaa atccagatga agtgactac aatttgaagc 910

aaaggtgcag gaaaacagag ccaggatgtt tctgtcacat cagatccaat tttagtaaaa 970

gcatcactcg ggagcaatat agggatgcag tcttacgttg taggtgaagg atatgggtta 1030

gggggtggtg ctgtccaaag aatacaaagg aagagagtta gggagaggat gatattgtac 1090

acactttgta ttacacatg agaagtttat agctgaagtg atgttttcaa gttaaagttt 1150

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 agaaaaaagc agccggtggc agaacggggg gatgaaagtt tctaaaaact aacactgttg 1750
 gtgtttttta actcattatt ttccatgaaa atgcaacaac atgtataata tttttaatta 1810
 aataaaaaatc tgtggtgggc aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1870
 aaaaaaaaaa aaa 1883

<210> 47
 <211> 223
 <212> PRT
 <213> Felis catus

<400> 47
 Met Ala Cys Phe Gly Phe Arg Arg His Gly Ala Gln Leu Asp Leu Ala
 1 5 10 15
 Ser Arg Thr Trp Pro Cys Thr Ala Leu Phe Ser Leu Leu Phe Ile Pro
 20 25 30
 Val Phe Ser Lys Gly Met His Val Ala Gln Pro Ala Val Val Leu Ala
 35 40 45
 Ser Ser Arg Gly Val Ala Ser Phe Val Cys Glu Tyr Gly Ser Ser Gly
 50 55 60
 Asn Ala Ala Glu Val Arg Val Thr Val Leu Arg Gln Thr Gly Ser Gln
 65 70 75 80

Met Thr Glu Val Cys Ala Ala Thr Tyr Thr Val Glu Asn Glu Leu Ala
 85 90 95

Phe Leu Asp Asp Ser Thr Cys Thr Gly Ile Ser Ser Gly Asn Lys Val
 100 105 110

Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile
 115 120 125

Cys Lys Val Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Ala Gly Met Gly
 130 135 140

Asn Gly Thr Gln Ile Tyr Val Ile Asp Pro Glu Pro Cys Pro Asp Ser
 145 150 155 160

Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser Ser Gly Leu Phe Phe
 165 170 175

Tyr Ser Phe Leu Ile Thr Ala Val Ser Leu Ser Lys Met Leu Lys Lys
 180 185 190

Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu
 195 200 205

Pro Glu Cys Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn
 210 215 220

<210> 48
 <211> 1883
 <212> DNA
 <213> Felis catus

<400> 48
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 acagattttt atttaattaa aaatattata catgttggtg cattttcatg gaaaataatg 120
 agttaaaaaa caccaacagt gttagttttt agaaactttc atcaccccggt tctgccaccg 180
 gctgcttttt tctgtccatg gcatgaacca tgtgttagga attggggccc ttgtgaaact 240
 agagcttcct tgaagttcgt acctacaaga cccctggagt gagccatttt cttgagggtg 300
 gtgttctatt gaattacatc agatacacca gtctggactc cttgcaaac ctttgaaagg 360
 agctaacata aaagcccaaa tcacatgtca acaccaattc agctcaacgt gtctataaga 420

atcagttatg acctcagcca gtttccaagc cagttaccaa gtgactttgt gttctacctg 480
 gtgtattagt gtcctgagcc cctccataaa acttcccctg aacccatggt gggaagacac 540
 tgccatatag tgtttatatt aaaaccatca gcaaatacac aaaagcacat gtggtcccca 600
 tgcacaatac tatcaaataa aaaaaatac atattggtac aatacaacct ttggaatcac 660
 tggctaaaat atagccacgt gagtatTTTT aaagtcttca tgtaattcca catttaagaa 720
 aaataacagc acaaaacttt aacttgaaaa catcacttca gctataaact tctcatgtgt 780
 aaatacaaag tgtgtacaat atcatcctct ccctaactct ctccctttgt attctttgga 840
 cagcaccacc ccctaaccga tatccttcac ctacaacgta agactgcac cctatattgc 900
 tcccagtgta tgcttttact aaaattggat ctgatgtgac agaaacatcc tggctctgtt 960
 ttcttgacc tttgcttcaa attgtagtac acttcactct gattttgcat ccagctttat 1020
 attaaagaga gatgaatccc ccccaaaaat acacaaataa gcaacatagc tggatagcaa 1080
 aaagttagaa ttgcctcagc tcttagaaat tggacagtgt tcttccttct tcataacggt 1140
 gtgtcaattg atgggaataa aataaggctg aaattgcttt tcacattctg gctctgttgg 1200
 gggcattttc acatagaccc ctgtagtaag agggcttctt ttcttttagca ttttgctcaa 1260
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 tcccgtgtcc atggccctca acccttggat ggtgaggttc actttgtttc cgctggagat 1500
 gccagtgcag gtggaatcat ctaggaaggc caactcattc tccactgtgt atgtcgcagc 1560
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 cactgcaggc tgggccacat gcatcccttt ggagaagacg gggataaaga gaagagaaaa 1740
 cagagcagtg cagggccagg tcttagaagc caggtccagc tgagcccat gcctccggaa 1800
 tccaaagcaa gccatggctt tatgggagca gtgttcaggt cttcaggaa cagagtga 1860

cctttcagga tcttgaagct ttg

1883

<210> 49

<211> 669

<212> DNA

<213> Felis catus

<400> 49

atggcttgct ttggattccg gaggcattgg gctcagctgg acctggcttc taggacctgg 60
ccctgcactg ctctgttttc tcttctcttt atccccgtct tctccaaagg gatgcatgtg 120
gccagcctg cagtgggtgct ggccagcagc cgaggtgtcg ccagcttcgt gtgtgaatat 180
gggtcttcag gcaatgccgc cgaagtcga gtgactgtgc tgaggcagac tggcagccag 240
atgactgaag tctgtgtgct gacatacaca gtggagaatg agttggcctt cctagatgat 300
tccacctgca ctggcatctc cagcggaaac aaagtgaacc tcaccatcca agggttgagg 360
gcatggaca cgggactcta catctgcaag gtggagctca tgtaccacc accctactat 420
gcaggcatgg gcaatggaac ccagatttat gtcacgac ctgaaccttg ccagattct 480
gacttcctcc tctggatcct cgcagcagtc agttcaggat tgtttttta tagcttcctt 540
atcacagctg tttctttgag caaaatgcta aagaaaagaa gccctcttac tacaggggtc 600
tatgtgaaaa tgccccaac agagccagaa tgtgaaaagc aatttcagcc ttattttatt 660
cccatcaat 669

<210> 50

<211> 669

<212> DNA

<213> Felis catus

<400> 50

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tttcacatag acccctgtag taagagggtc tcttttcttt agcattttgc tcaaagaaac 120
agctgtgata aggaagctat aaaaaacaa tcttgaactg actgctgcga ggatccagag 180
gaggaagtca gaatctgggc aaggttcagg atcgatgaca taaatctggg ttccattgcc 240

catgcctgca tagtaggggtg gtgggtacat gagctccacc ttgcagatgt agaqtcccg 300
 gtccatggcc ctcaaccctt ggatgggtgag gttcactttg tttccgctgg agatgccagt 360
 gcaggtggaa tcattctagga aggccaactc attctccact gtgtatgtcg cagcacagac 420
 ttcagtcate tggctgccag tctgcctcag cacagtcact cggacttcgg cggcattgcc 480
 tgaagacca tattcacaca cgaagctggc gacacctcgg ctgctggcca gcaccactgc 540
 aggctggggc acatgcatcc ctttggagaa gacggggata aagagaagag aaaacagagc 600
 agtgagggc caggtcctag aagccaggtc cagctgagcc ccatgcctcc ggaatccaaa 660
 gcaagccat 669

<210> 51

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 51

atacaagggtt acccagaacc 20

<210> 52

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 52

tgtgtagtac ttttgtcgcc 20

<210> 53

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 53

gggaattcgc caccatgggt cacgcagcaa agtg

34

<210> 54

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 54

ccctcgagct atgtagacag gtgagatc

28

<210> 55

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 55

gtaatacgac tcactatagg gc

22

<210> 56

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 56

accactccat tgtgatcatg

20

<210> 57

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 57

gtcttgatct cagggtcatg

20

<210> 58

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 58

gcggatccac catgggcatt tgtgacagca c

31

<210> 59

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 59

gcctcgagtt aaaaatgtgt agtacttttg tcg

33

<210> 60

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 60

gtgaacctsa cyatccaagg

20

<210> 61

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 61

gcattttcac atagaccct g

21

<210> 62

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 62

ggtacgtagg gatgcatgtg gctcagc

27

<210> 63

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 63

ccgaattctc agtcagaatc tgggcaagg t c

32

<210> 64

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 64

ggtacgtagg tgctgcttcc atgaagag

28

<210> 65

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 65

cccctaggtt aaaactgtgt agtactgttg tcgcc

35